

National Imaging Associates, Inc.*	
Clinical guidelines FETAL MRI	Original Date: January 2016
CPT Codes: 74712, +74713	Last Revised Date: <del>April June 2021</del>
Guideline Number: NIA_CG_110	Implementation Date: January 2023 <del>2</del>

(For evaluating the placenta or imaging the maternal pelvis without need for fetal assessment, use the Pelvic MRI guideline)

### INDICATIONS

- To better define or confirm a known or suspected abnormality of the fetus after ultrasound has been performed ~~during the second trimester~~<sup>1</sup> (~~Prayer, 2017~~) or when fetal surgery is planned, and/or to make a decision about therapy, delivery or to advise the family about prognosis<sup>2, 3</sup> (~~ACR-SPR, 2020; SPR, 2021~~)

### Safety guidelines and possible contraindications

There are no documented fetal indications for the use of MRI contrast, but there may be rare instances where contrast is considered potentially helpful in assessing the pregnant patient's anatomy or pathology. However, its use is controversial with uncertainty surrounding the risk of possible fetal effects because gadolinium is water-soluble and can cross the placenta.

The decision to administer contrast must be made on a case-by-case basis by the covering level 2 MR personnel-designated attending radiologist who will assess the risk-benefit ratio for that particular patient. The decision to administer a gadolinium-based MR contrast agent to pregnant patients should be accompanied by a well-documented and thoughtful risk-benefit analysis (~~ACOG, 2017~~).<sup>4</sup>

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### BACKGROUND

MRI not only contributes to diagnosis, but also serves as an important guide to treatment, delivery planning, and counseling. However, sonography is the screening modality of choice in the fetus. The advantage of MRI over ultrasound is its ability to image deep soft tissue structures without relying on the skill of the operator or limitations of patient body habitus.

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\* National Imaging Associates, Inc. (NIA) is a subsidiary of Magellan Healthcare, Inc.

Fetal MRI should be performed only for a valid medical reason and only after careful consideration of sonographic findings or family history of an abnormality for which screening with MRI might be beneficial. Before 18 weeks gestational age, a fetal MRI may not provide additional diagnostic information due to the small size of the fetus and fetal movement when compared with sonography. The need for early diagnosis should be balanced against the advantages of improved resolution later in pregnancy, with the choice dependent on the anomalies to be assessed.

According to the American College of Obstetricians and Gynecologists' Committee on Obstetric Practice, the preponderance of animal studies demonstrates no risk of teratogenesis to the fetus, and tissue heating from MRI scanners is negligible near the uterus.<sup>4</sup> Furthermore, in human studies of patients undergoing MRI, there has been no acoustic injuries to the fetus during prenatal MRI.<sup>4</sup> (ACOG, 2017) At this time there is no documentation of deleterious effects of MRI at 1.5T and 3T on the developing fetus (ACR-SPR, 2020).<sup>2</sup>

#### POLICY HISTORY

Date	Summary
<del>April</del> <del>June</del> 2022	<ul style="list-style-type: none"><li>• Updated background section</li></ul>
June 2021	<ul style="list-style-type: none"><li>• Updated reference</li><li>• Added background information regarding 1.5T and 3T</li></ul>
May 2020	<ul style="list-style-type: none"><li>• No substantive changes</li></ul>
June 2019	<ul style="list-style-type: none"><li>• For known or suspected abnormality of the fetus after ultrasound, added time restriction 'during the second trimester' and included 'to make a decision about therapy, delivery, or to advise the family about prognosis'</li><li>• Updated background information and references</li></ul>

## REFERENCES

~~American College of Obstetricians and Gynecologists (ACOG). Guidelines for Diagnostic Imaging During Pregnancy and Lactation. ACOG Committee Opinion. 2017 Oct; 723. <https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Guidelines-for-Diagnostic-Imaging-During-Pregnancy-and-Lactation>.~~

~~American College of Radiology (ACR) and Society for Pediatric Radiology (SPR). ACR-SPR Practice Parameter for the Safe and Optimal Performance of Fetal Magnetic Resonance Imaging (MRI). <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/MR-Fetal.pdf>. Revised 2020. Accessed August 19, 2021.~~

~~Perrone A, Savelli S, Maggi C, et al. Magnetic resonance imaging versus ultrasonography in fetal pathology. *Radiol Med*. 2008; 113:225-41. <http://www.ncbi.nlm.nih.gov/pubmed/18386124>.~~

~~Prayer D, Malinger G, Brugger PC, et al. ISUOG Practice guidelines: Performance of fetal magnetic resonance imaging. *Ultrasound Obstet Gynecol*. 2017 May; 49(5):671-80.~~

~~Saleem SN. Fetal MRI: An approach to practice: A review. *J Adv Res*. 2014; 5:507-523. <http://www.ncbi.nlm.nih.gov/pubmed/25685519>.~~

~~Society for Pediatric Radiology (SPR). Fetal MRI—General Information. Revised 2021. Accessed August 19, 2021. <http://www.pedrad.org/Specialties/Fetal-Imaging/Fetal-MRI-General-Information>.~~

~~Tocchio S, Kline-Fath B, Kanal E, et al. MRI evaluation and safety in the developing brain. *Semin Perinatol*. 2015; 39:73-104. [http://www.seminperinat.com/article/S0146-0005\(15\)00003-8/fulltext?mobileUi=0](http://www.seminperinat.com/article/S0146-0005(15)00003-8/fulltext?mobileUi=0).~~

**~~Reviewed / Approved by NIA Clinical Guideline Committee~~**

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## GENERAL INFORMATION

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.

**Disclaimer:** Magellan Healthcare service authorization policies do not constitute medical advice and are not intended to govern or otherwise influence the practice of medicine. These policies are not meant to supplant your normal procedures, evaluation, diagnosis, treatment and/or care plans for your patients. Your professional judgement must be exercised and followed in all respects with regard to the treatment and care of your patients. These policies apply to all Magellan Healthcare subsidiaries including, but not limited to, National Imaging Associates (“Magellan”). The policies constitute only the reimbursement and coverage guidelines of Magellan. Coverage for services varies for individual members in accordance with the terms and conditions of applicable Certificates of Coverage, Summary Plan Descriptions, or contracts with governing regulatory agencies. Magellan reserves the right to review and update the guidelines at its sole discretion. Notice of such changes, if necessary, shall be provided in accordance with the terms and conditions of provider agreements and any applicable laws or regulations.

1. Prayer D, Malinger G, Brugger PC, et al. ISUOG Practice Guidelines: performance of fetal magnetic resonance imaging. *Ultrasound Obstet Gynecol*. May 2017;49(5):671-680. doi:10.1002/uog.17412
2. ACR-SPR Practice Parameter for the Safe and Optimal Performance of Fetal Magnetic Resonance Imaging (MRI). American College of Radiology (ACR), Society for Pediatric Radiology (SPR). Updated 2020. Accessed December 17, 2021. <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/MR-Fetal.pdf>
3. Fetal MRI - General Information. Society for Pediatric Radiology (SPR). Updated 2021. Accessed December 17, 2021. <https://www.pedrad.org/Specialties/Fetal-Imaging/Fetal-MRI-General-Information>
4. Committee Opinion Number 723: Guidelines for diagnostic imaging during pregnancy and lactation. American College of Obstetricians and Gynecologists (ACOG). Updated October 2021. Accessed December 17, 2021. <https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Guidelines-for-Diagnostic-Imaging-During-Pregnancy-and-Lactation>

## ADDITIONAL RESOURCES

1. Perrone A, Savelli S, Maggi C, et al. Magnetic resonance imaging versus ultrasonography in fetal pathology. *Radiol Med*. Mar 2008;113(2):225-41. doi:10.1007/s11547-008-0242-0
2. Saleem SN. Fetal MRI: An approach to practice: A review. *J Adv Res*. Sep 2014;5(5):507-23. doi:10.1016/j.jare.2013.06.001

3. Tocchio S, Kline-Fath B, Kanal E, Schmithorst VJ, Panigrahy A. MRI evaluation and safety in the developing brain. *Semin Perinatol.* Mar 2015;39(2):73-104.  
[doi:10.1053/j.semperi.2015.01.002](https://doi.org/10.1053/j.semperi.2015.01.002)

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